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# A new bat for Israel, *Eptesicus innesi* Lataste, 1887, with some remarks on the affinities of this species

By David L. Harrison, M. A., M. B. Ch., F. Z. S.

*Eingang des Ms. 10. 9. 1962*

On the 22nd April, 1962, a small serotine bat was obtained by the author at Yotvata, in the Wadi Araba, 40 Kms. north of Eilat, Israel. The small size of this animal and its pale sandy colour at once distinguished it from the large, dark coloured northern Serotine of Israel, *Eptesicus serotinus* Schreber, 1774. (See fig. 1). The specimen has been carefully compared with the lectotype and two topotypes of *Eptesicus innesi* Lataste, 1887 (Type Locality Cairo, Egypt) in the British Museum Collection. The skull of the lectotype has been removed from the alcoholic specimen in order to make cranial measurements of this little known bat available for the first time. There is no doubt that the Yotvata bat agrees in all essential details with the specimens of *E. innesi* and that it is the first example to be found since it was originally described. Sanborn and Hoogstraal (1955) knew of no recent occurrences in Egypt.

The flesh and cranial measurements are given below (Tables 1, 2) compared with those of the lectotype and topotypes. Since this is the only freshly skinned specimen known (the Cairo specimens are all three alcoholic), a detailed description of it seems justified. The specimen was a pregnant adult female, the uterus contained two embryos, the crownrump length of each being about 14 mms. It is a rather small Serotine with the fur soft, long and dense. The hairs attain about 10 mms. in length in the mid-dorsal region and somewhat less, about 8 mms. on the belly. They are everywhere bicoloured, rather less than half their length basally being slaty-grey. The colour of the whole undersurface is white, very faintly suffused with a buffy wash. There are indistinct lines of demarcation between the dorsal and ventral surfaces extending from the base of the ears to the antebrachial membranes. The upper surface is a uniform pale buffy clay colour, close to Honeysuckle, D. 6., Plate 12 of Maerz & Paul (1950). The pelage hardly extends on to the membranes at all, but the base of the tail above is lightly haired and scattered white hairs are present on the ventral surface of the wing membrane along the posterior border of the forearm. The ears and membranes are dusky and blackish, contrasting quite strongly with the pale pelage; the interfemoral membrane is semi-translucent. The

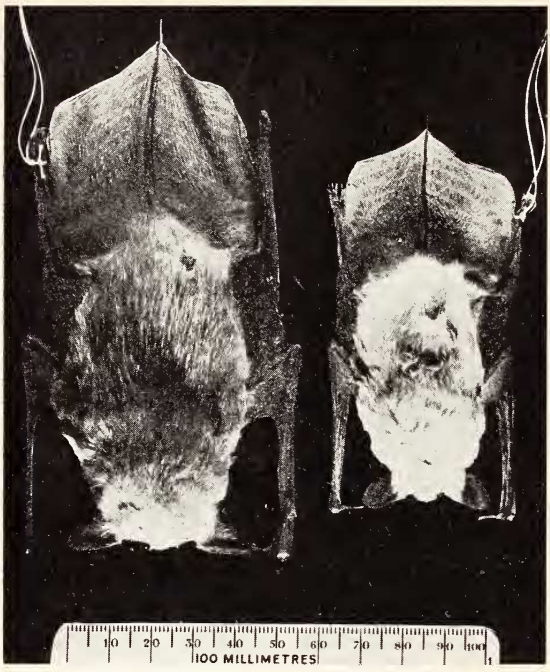


*Fig. 1. Right: Eptesicus innesi,* Harrison Coll. No. 1.3668 ♀ 22. 4. 62. Yotvata, Wadi Araba, *left: Eptesicus serotinus,* Harrison Coll. No. 26.3424 ♀ 18. 4. 61. Wadi Amud, N. of the Sea of Galilee. Scale = 100 mms

tip of the tail projects for a distance of 3 mms. from the membrane. A small but distinct post-calcaneal lobe is present. The apices of the ears are bluntly rounded; their internal and external borders are nearly straight, but the external border is sharply angulated inwards at its base. The tragus is bluntly tipped and possesses a distinct triangular pointed basal lobule.

The skull is rather small and less heavily ridged than that of the large *E. serotinus.* The dorsal profile is not flat as in that species, there is a stronger concavity between the rostrum and the braincase, while the braincase itself is rather more elevated in *E. innesi.* The lambda and sagittal crest are not elevated as they are in *E. serotinus* and the lambda does not overhang the supraoccipital. The coronoid process of the mandible is lower in this species than it is in *E. serotinus.* In this specimen $I^1$ is slightly worn and is not clearly biscuspid while $I^2$ is small, barely exceeding the cingulum of $I^1$ in height. The dentition is essentially similar to that of *E. serotinus.*

*Table 1*

**External Measurements (in mms) of Eptesicus innesi**

| Specimen | Locality | Date | Sex. | Total Length | Tail | Hind Foot | Forearm | Ear |
|---|---|---|---|---|---|---|---|---|
| B. M. 19. 7. 7. 3528 Lectotype. | Cairo, Egypt. | — | ♀ | 97.3 | 42.6 | 8.6 | 41.7 | 14.5 |
| B. M. 3. 12. 8. 9. | „ „ | — | ♂ | — | 39.3 | 8.3 | 40.3 | 14.2 |
| B. M. 3. 12. 8. 10. | „ „ | — | ♀ | 98 | 44 | 7.7 | 40.3 | 13.6 |
| Harrison Coll. 1. 3688. | Yotvata, Wadi Arabia, Israel | 22.iv.62. | ♀ | 99.5 | 40 | 8.9 | 42.3 | 16.5 |

The specimen was obtained at dusk flying above an area of irrigated farmland with lines of tamarisk and eucalyptus trees, surrounded by sandy desert.

It is interesting to consider the affinities of this species, in the light of the discovery that its range extends into S. W. Asia. Ellerman and Morrison-Scott (1951) provisionally placed *E. innesi* as a subspecies of *Eptesicus isabellinus* Temminck, 1840. There appears to be considerable doubt, however, regarding the status

*Table 2*

**Cranial Measurements (in mms) of Eptesicus innesi**

| Specimen | Greatest length | Condylo-basal length | Zygo-matic breadth | Breadth of brain case | Inter-orbital constric-tion | Maxillary cheek teeth C—M³ | Mandibular cheek teeth C—M₃ | Man-dible |
|---|---|---|---|---|---|---|---|---|
| B. M. 19. 7. 7. 3528 Lectotype | 16.3 | 15.6 | 10.4 | 7.7 | 3.8 | 5.6 | 6.1 | 11.6 |
| B. M. 3. 12. 8. 9. | 16.1 | 15.2 | — | 7.2 | 3.8 | 5.3 | 5.9 | 11 |
| HARRISON 1. 3668 | 16.6 | 16 | 10.4 | 7.2 | 3.3 | 5.7 | 6.3 | 12 |

of *E. isabellinus,* since no cranial measurements were given by TEMMINCK (1840) in his original description, while LATASTE (1887) in his description of *E. innesi,* stated that a skull of a specimen of *V. serotinus* ssp. *isabellinus* examined by him measured 19.3 mms., a measurement which would certainly indicate affinity with *E. serotinus.* LATASTE, however, did not give any details of essential data for this specimen. Having regard to these doubts and pending re-examination of the type material of *E. isabellinus,* it appers unwise to assume that the two are conspecific.

*Fig. 2. Above: Eptesicus serotinus* of fig. 1, dorsal and lateral views, *Below: Eptesicus innesi* of fig. 1, dorsal and lateral views, scale-cms and mms

The occurrence of this bat in the Wadi Araba led to a careful comparison with *Eptesicus hingstoni* Thomas, 1919 (Type Locality Baghdad, Iraq) which was considered by ELLERMAN and MORRISON-SCOTT (loc. cit.) to be conspecific with *E. sodalis* Barrett-Hamilton, 1910 (Type Locality Bustenari, Prahova, 840 m. Carpathians, Rumania). Although *E. hingstoni* averages rather larger than *E. innesi,* there seems to be no valid reason for regarding them as distinct species. It is significant that the Yotvata bat is a shade larger than the specimens from Cairo, and only a shade smaller than the smallest *E. hingstoni* seen from Iraq, indicating the presence of a clinal variation in size in this group of Lesser Serotine Bats. It is accordingly provisionally suggested that *E. innesi* is conspecific with the forms grouped by ELLERMAN and MORRISON-SCOTT under *E. solidalis,* and that in the present state of our knowledge, it provides the proper specific name for this group, since it was the earliest named form. The final elucidation of this rather difficult group, however, must await the re-examination of the type material of *E. isabellinus.* It appears very likely that *Eptesicus bottae* Peters, 1869 (Type locality Yemen, Arabia) is a close relative of *E. innesi.*

## Summary

*Eptesicus innesi* Lataste (Type Locality Cairo, Egypt) is recorded from Yotvata, Wadi Araba, Israel. — Cranial and external measurements are given of the lectotype and topotypes of

*E. innesi* in the British Museum collection. — *E. innesi* is regarded as being conspecific with *E. hingstoni* (Type Locality, Baghdad, Iraq).

**Zusammenfassung**

*Eptesicus innesi* wurde in Yotvata, Wadi Arabe, Israel, gefunden; es werden Schädel- und äußere Messungen gegeben. *E. innesi* Lataste 1887 = *E. hingstoni* Thomas 1919.

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# Studien am Gebiß der Hausmaus *(Mus musculus* L.)

Von W. Herold

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Wie in einigen früheren Arbeiten über *Apodemus, Rattus* und die Schlafmäuse soll im Folgenden die Variabilität der Molaren-Wurzeln von *Mus* untersucht werden. Dazu standen mir annähernd 4000 Schädel zur Verfügung, die überwiegend aus Eulengewöllen stammten. So ist die Zugehörigkeit zu bestimmten Subspecies nicht immer feststellbar, wenn sie auch in vielen Fällen aus der Herkunft der Schädel erschlossen werden kann. Für die Übersicht auf Tabelle 1 wurden nur einigermaßen zahlreiche Populationen verwendet.

Kurz wird ferner die Frage behandelt, ob bestimmte Varianten als ursprünglich angesehen werden dürfen. Über die Zahnwurzeln pleistocaener Hausmäuse ist nichts bekannt. Es wird versucht, diese Frage durch Vergleich mit anderen *Murinen* zu lösen.

Die Schädel aus Ostpolen stammen aus den Woiwodschaften Bialystok und Lublin, die österreichischen aus Ober- und Nieder-Österreich, der Steiermark und dem Burgenland, die ungarischen aus dem Komitat Békés.

Weiter sind Freilandfänge durch Eule und Mensch aus den Niederlanden, aus verschiedenen Gegenden Deutschlands, aus Nord-Tunesien und aus Korfu bearbeitet, endlich Zuchtstämme aus dem Biologischen und dem Pharmakologischen Institut der Universität Halle/Saale.[1]

[1] Bei meiner Arbeit bin ich von so vielen Kollegen, Museen und Instituten mit Material versorgt worden, daß ich hier nur allgemein danken kann. Besonders umfangreiches Schädelmaterial erhielt ich von den Herren K. Bauer, Wien, K. Becker, Berlin, A. Dehnel, Lublin, A. H. Husson, Leiden, D. von Knorre, Altdöbern N.-L., J. Niethammer, Bonn, J. Pelikán, Brünn, H. Steiner, Wien, A. van Wijngarden, Wageningen und K. Zimmermann, Berlin.